

REMARKS

Status of Application

Claims 1, 2, 4, 8, 22, and 25 have been examined. Claims 3, 5-7, 9-21, 23, 24, and 26 have been withdrawn from consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected species. Claims 22 and 25 are rejected under 35 U.S.C. 101 because the claimed invention is allegedly directed to non-statutory subject matter. Claims 1, 2, 4, and 25 are rejected under 35 U.S.C. 102(b) as being allegedly anticipated by Kashihara (US Patent 5,742,317). Claims 8 and 22 are rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Kashihara.

By this Amendment, Applicants are adding new claims 27-29 and canceling claim 25.

Claim Rejections - 35 USC § 101

Claim 22 stands rejected under 35 U.S.C. 101 because the claimed invention is allegedly directed to non-statutory subject matter.

The Examiner alleges that claims 22 and 25 do not include a computer-readable medium or memory and are thus non-statutory for that reason. Applicants have amended claim 22 in accordance with the Examiner's suggestion and cancelled claim 25.

Claim Rejections - 35 USC § 102

Claims 1, 2, 4, and 25 stand rejected under 35 U.S.C. 102(b) as being allegedly anticipated by Kashihara (US Patent 5,742,317).

Claim 1

Claim 1 recites, in part, "half-tone dots having sizes according to the tone values". The Examiner alleges that Kashihara would anticipate claim 1. Applicants respectfully submit that this position is not supportable.

The Examiner asserts that the “half-tone dots” of the claimed invention is disclosed by the supercell matrix feature of Kashihara. The supercell of Kashihara is disclosed by FIGS. 3 and 4 of Kashihara and col. 10, line 50 of Kashihara, where:

the interpolation circuit 18 refers to the image signals of the peripheral pixels around a target pixel M and converts into signals a, b, c, and d in which the densities in the main scan and sub scan directions are twice as large as those of the image signal for the target pixel M.

The Examiner appears to interpret the supercell as an example of the “half-tone dot” of the claimed invention. However, the “half-tone dot” of the claimed invention is defined by “having sizes according to the tone values” as recited in claim 1. Therefore, the “half-tone dot” of the claimed invention, by its dimensions, may correspond to each half-tone dot appearing in a supercell. Assuming *arguendo*, even if the individual half-tone dots in the supercell are interconnected and form a group, this group as a whole does not disclose the half-tone dot of the claimed invention because the size of the entire group or supercell cannot change according to the tone values. Thus, Kashihara does not disclose or suggest “half-tone dots having sizes according to the tone values”.

Because claim 1 is generic to the elected and non-elected species and is allowable for the reasons set forth above, we would request rejoinder of the withdrawn claims.

Claim 2

Claim 2 recites, in part, the features “the half-tone dot conversion section *always scatters the blanks* of the drawing pixels about the half-tone dots, *at associated positions*, respectively, *regardless* of the tone values.” The Examiner alleges that Kashihara would anticipate claim 2. Applicants respectfully submit that this position is not supportable.

The Examiner asserts that, “FIG. 17 shows 4 blank pixels for all 16 tone values ranging 0-15. Kashihara states that the tone values range from 0 to 15 at column 11, line 9” discloses these claimed features. FIG. 17 of Kashihara, however, shows a dither pattern that is repeated a total of four times (col. 16, lines 30-31) where the blanks in the dither pattern are also repeated in the same location. In the dither pattern of Kashihara, when the input multivalued data is equal to or larger than the threshold value of the dither matrix, then the pixel is printed in **black** (col. 16, lines 18-20). In Kashihara, the 4 blank pixels are *in respect* to the tone value range from 0 to 15 (col. 11, line 9). Further, Kashihara states, “other portions in the region to be referred denote that any one of the black dot and the blank dot can be *arbitrarily set*.” Kashihara also shows that each pixel can be filled in until all pixels are filled. (FIG. 17). Under Kashihara, if all pixels were filled in by black, there is no possibility of blank scattering about the halftone dots. Also, under Kashihara, the blanks in the dither matrix are unused pixels, rather than blanks where pixels cannot be filled in (col. 10, lines 61-67). Thus, Kashihara does not disclose or suggest “the halftone dot conversion section *always scatters the blanks* of the drawing pixels about the halftone dots, *at associated positions*, respectively, *regardless* of the tone values.”

Claim 4

Claim 4 recites, in part, “the halftone dot conversion section determines geometry of halftone dots using a dot matrix defining halftone dots by an arrangement of thresholds to be compared with the tone values.” The Examiner alleges that Kashihara would anticipate claim 4. Applicants respectfully submit that this position is not supportable.

The Examiner asserts the argument:

FIG. 5 shows the dither matrix containing threshold values. The resulting halftone dots shown in FIG. 17 are the result of the matrix shown in FIG. 5 being repeated to create an 8x8 matrix

as disclosing claim 4. FIG. 17 of Kashiara, however, is merely the result of the matrix shown in FIG. 5 being repeated 4 times to create an 8x8 matrix. The matrix, as defined in Kashiara, allows any point to be either a blank or black dot and refers to any spot not yet defined as black to be blank (col. 16, line 42). If the multivalue data for a certain pixel is greater than the threshold, then the matrix value is automatically black regardless of whether it is previously defined as a non-drawing pixel or blank. Thus, Kashiara does not disclose or suggest the, “geometry of halftone dots” as recited in claim 4.

Claim Rejections - 35 USC § 103

Claims 8 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashiara.

Claim 8

Claim 8 recites, in part, “a plurality of halftone dot conversion systems”. The Examiner asserts that FIGS. 6, 17, and 20 of Kashiara disclose this feature. FIGS. 6, 17, and 20 of Kashiara, however, are directed to dither matrix diagrams and do not disclose or suggest, “a plurality of halftone dot conversion systems”. Also, for analogous reasons regarding the patentability of claim 1, claim 8 is also patentable over the prior art.

Claim 22

For analogous reasons regarding the patentability of claim 1, claim 22 is also patentable over the prior art.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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